Having described the invention, I claim the following:

1. A circuit for controlling voltage in a tire-based unit of a tire parameter sensing system, the circuit comprising:

a battery for supplying electrical energy, the battery having an equivalent series resistance that varies inversely with temperature; and

a current control device that is responsive to at least one of an output voltage of the battery and temperature for adjusting a current draw from the battery to insure a predetermined minimum output voltage from the battery.

2. The circuit of claim 1 further including a sensor portion that is operative to sense a parameter of the tire when supplied with a voltage of at least the predetermined minimum value and signal transmission circuitry for transmitting a signal indicative of the sensed parameter, the sensor portion and the signal transmission circuitry receiving electrical energy from the battery and being wired in parallel to one another,

the signal transmission circuitry being wired in series with the current control device.

3. The circuit of claim 2 wherein the signal transmission circuitry includes an amplifier, the current control device controlling the current supplied to the amplifier.

4. The circuit of claim 3 wherein the current control device varies a resistance in an electrical path for biasing the amplifier.

5. A circuit for use in a tire of a vehicle having a tire parameter sensing system, the circuit comprising:

a battery for supplying electrical energy, the battery having an equivalent series resistance that varies inversely with temperature;

a sensor portion that is operative to sense a parameter of the tire when supplied with a voltage of at least a predetermined minimum value; and

a resistance varying device being responsive to at least one of a supplied voltage and a temperature for reducing a current draw from the battery so as to

reduce a voltage drop resulting from the equivalent series resistance of the battery and maintain at least the predetermined minimum value of voltage to the sensor portion.

6. The circuit of claim 5 wherein the sensor portion includes a controller, the controller being operatively coupled to the resistance varying device and controlling the resistance varying device in response to at least one of the supplied voltage and the temperature.

7. The circuit of claim 6 wherein the resistance varying device includes a controllable variable resistor.

8. The circuit of claim 6 wherein the resistance varying device includes first and second resistors connected in parallel to one another and a switch that is operable for disconnecting one of the first and second resistors so as to increase a resistance of the resistance varying device, the controller controlling operation of the switch.

9. The circuit of claim 6 wherein the resistance varying device includes a first electrical path which forms a short, a second electrical path that includes a resistor, and a switch being operable to disconnect the short so as to increase a resistance of the resistance varying device, the controller controlling operation of the switch.

10. The circuit of claim 6 further including a voltage sensor for sensing the supplied voltage to the controller and a temperature sensor for sensing the temperature, the controller being responsive to the sensed voltage and sensed temperature for determining whether the equivalent series resistance of the battery is increasing, the controller, in response to determining that the equivalent series resistance is increasing, controlling the resistance varying device to increase resistance so as to reduce the current draw from the battery.

11. The circuit of claim 5 wherein the resistance varying device is a thermistor that has a resistance that varies inversely with temperature.

12. The circuit of claim 5 further including signal transmission circuitry having an amplifier, the battery supplying a control voltage and a bias voltage to the amplifier, the resistance varying device being located in an electrical path for supplying bias voltage to the amplifier.

13. A method of controlling voltage in a tire-based unit of a tire parameter sensing system having a battery, the method comprising the steps of:

determining whether an equivalent series resistance of the battery is increasing; and

reducing a current draw from the battery, in response to determining an increase in the equivalent series resistance, so as to reduce a voltage drop resulting from the equivalent series resistance of the battery and maintain an output voltage from the battery of at least a predetermined minimum value.

14. The method of claim 13 wherein the step of reducing a current draw from the battery includes the step of increasing resistance in series with the battery.

15. The method of claim 14 wherein the step of determining whether an equivalent series resistance of the battery is increasing further including the steps of:

sensing a temperature near the battery;

sensing the output voltage of the battery; and

determining whether sensed temperature and the sensed output voltage indicate an increase in the equivalent series resistance of the battery.